



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,134	09/08/2000	Tae In Yoon	HI-014	3539

7590

09/11/2002

Fleshner & Kim LLP
P O Box 221200
Chantilly, VA 20153-1200

EXAMINER

GAUTHIER, GERALD

ART UNIT	PAPER NUMBER
----------	--------------

2645

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/658,134	Applicant(s) YOON, TAE IN	
	Examiner Gerald Gauthier	Art Unit 2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 19 is/are rejected.
- 7) ☒ Claim(s) 10,11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claims 10, 11** are objected to because of the following informalities: **claims 10 and 11** are duplicated of **claims 8 and 9**.

Election/Restriction

2. Applicant's election with traverse of claims 1-16 and 19 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that the subject matter of each designate invention is sufficiently related. A search of the subject matter would include a search of the remaining designated invention.

This is not found persuasive because the determination of a busy state of the subscriber terminal of group II is not required to have voice mail service of group I or line card of group III. These reasons have made the non-elected group very distinct to each other. The non-elected inventions have acquired a separate status in the art as shown by different classification.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 4-5, 13, 15 and 19** are rejected under 35 U.S.C. 102(b) as being anticipated by Matern et al. (US 5,592,473).

Regarding **claim 1**, Matern discloses a voice mail service system (column 11, 59) for a private switching system (column 11, lines 61), comprising:

a system matching circuit (14 on FIG. 6) configured to couple to a private switching system (column 11, lines 61), so as to interface all information in relation to a call and a management of the call (column 11, lines 58-65) [The switching means transmitted the voice messages to be recorded from any of the time slots to the voice record channels];

a voice data memory (62 and 64 on FIG. 6) to provide a voice mail function (column 12, lines 4-11), and to store voice guide information in an address sector of a corresponding channel (column 12, line 7) after compressing the voice guide information (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

a voice and signal processor (50 on FIG. 6) to store voice data of the extension subscriber in the voice data memory and retrieve it so that the voice data can be transmitted (column 10, lines 7-20) [The microprocessor accesses and controls the storage means];

a communication controller (56 on FIG. 6) to manage a state of each channel matching with the private switching system, process channel errors, and maintain and repair the channel (column 10, lines 11-20) [The disk generates processor interrupts and signals for facilitating the transfer of data. Inherently all storage channels are manage and maintained]; and

a control circuit (54 on FIG. 6) to match with the private switching system to control an operation for maintaining the voice mail function (column 8, lines 29-47) [The bus interface serve as the communication between the PBX and the voice mail function through multiple time slots and means].

Regarding **claim 4**, Matern discloses an interface section to interface with the private switching system (54 on FIG. 6);

a buffer to store data transmitted to and received from the private switching system in a prescribed protocol (62 on FIG. 6); and

a common memory to store call-related messages and data transmitted or received between the private switching system and the control circuit (64 on FIG.6).

Regarding **claim 5**, Matern discloses the voice data memory has a prescribed storage capacity, which is configured to be expanded by a unit of memory bank (column 12, lines 4-19).

Regarding **claim 13**, Matern discloses the voice memory provides the voice mail to each extension subscriber of the private switching system and stores voice guide information of the extension subscriber, and wherein the voice and signal processor stores voice data of the extension subscriber to transmit to an incoming caller (column 5, lines 2-15).

Regarding **claim 15**, Matern discloses the private switching system is a system of higher rank than the voice mail system (column 6, lines 29-37).

Regarding **claim 19**, Martin discloses the voice and signal processor compresses the voice data prior to it being stored, and decompresses the compressed voice data prior to it being transmitted (column 12, lines 4-19).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2-3, 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Hersh et al. (US 6,205,206).

Regarding **claim 2**, Matern as applied to **claim 1** above differs from **claim 2** in that it fails to disclose the voice mail service system is a line card.

However, Hersh teaches the voice mail service system is a line card, configured to couple to the private switching system (column 2, lines 45-53).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the voice mail service system is a line card of Hersh in the invention of Matern.

The modification of the invention would offer the capability of using the voice mail service system is a line card such as the system would have an integrating voicemail.

Regarding **claim 3**, Matern and Hersh as applied to **claim 2** above differ from **claim 3** in that it fails to disclose the line card accommodates a prescribed number of extension subscribers.

However, Hersh teaches the line card accommodates a prescribed number of extension subscribers, and wherein an increase in a number of line cards can increase a number of extension subscribers capable of being served with the voice mail service (column 6, lines 41-50).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the line card accommodating a prescribed number of extension subscribers of Hersh in the invention.

The modification of the invention would offer the capability of using the voice mail service system is a line card such as the system would have an integrating voicemail.

Regarding **claim 12**, Matern as applied to **claim 1** above differs from **claim 12** in that it fails to disclose a DTMF processor, a high speed RAM, a buffer, a dual port RAM and an interface circuit.

However, Hersh discloses a Dual Tone Multi-Frequency (DTMF) processor to process and analyze DTMF signals received from a terminal of the extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a high speed RAM to store an algorithm for an operation of the DTMF processor (column 3, lines 30-35);

a buffer to temporarily store analyzed DTMF signals (column 3, lines 30-35);

a dual port RAM to prevent a collision between the analyzed DTMF signals and the DTMF signals (column 3, lines 30-35); and

an interface circuit coupled to the DTMF processor section and the dual port RAM, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the DTMF processor and the PCM highway of LaRocca in the invention of Matern.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claim 14**, Martin and Hersh as applied to **claim 2** above differ from **claim 14**.

In addition, Matern discloses the connection to the private switching system is over a parallel bus (54 on FIG. 6).

7. **Claims 6, 7, 9, 11 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of LaRocca (US 6,069,888).

Regarding **claim 6**, Matern as applied to **claim 1** above differs from **claim 6** in that it fails to disclose a vocoder, a first high speed RAM, a first buffer, a first dual port RAM and a first interface circuit.

However, LaRocca teaches a vocoder coupled to the private switching system through a PCM highway and a system interface bus, configured to compress and modulate PCM voice signals (column 3, lines 49-58);

a first high speed RAM to store an algorithm for a compression-modulation and a demodulation of the PCM voice signals by the vocoder (column 4, lines 25-37);

a first buffer to store the PCM voice signal compressed and modulated by the vocoder and the PCM voice signal outputted (column 4, lines 25-37);

a first dual port RAM to maintain a smooth transmission and a smooth reception of the compressed and modulated PCM voice signal, to be stored in the voice data memory and the PCM voice signal outputted (column 4, lines 25-37); and

a first interface circuit coupled to the vocoder and the first dual port RAM, so as to arbitrate and control occupations of system interface bus by the vocoder and the first dual port RAM (column 4, lines 38-47).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder and the PCM highway of LaRocca in the invention of Matern.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claim 7**, Matern and LaRocca as applied to **claim 6** above differ from **claim 7** in that it fails to disclose a DTMF, a second high speed RAM, a second buffer, a second dual port RAM and a second interface circuit.

However, LaRocca teaches a Dual Tone Multi-Frequency (DTMF) processor to process and analyze DTMF signals received from a terminal of the extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a second high speed RAM to store an algorithm for an operation of the DTMF processor (column 3, lines 30-35);

a second buffer to temporarily store analyzed DTMF signals (column 5, line 65 to column 6, line 40);

a second dual port RAM to prevent a collision between the analyzed DTMF signals and the DTMF signals (column 3, lines 30-35); and

a second interface circuit coupled to the DTMF processor section and the second dual port RAM, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder and the PCM highway of LaRocca in the invention of Matern.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claims 9 and 11**, Matern and LaRocca as applied to **claims 6 and 7** above differ from **claims 9 and 11** in that it fails to disclose a data transmission/reception is carried out through the PCM highway.

However, LaRocca teaches data transmission/reception between the vocoder and the DTMF processor is carried out through the PCM highway, and is controlled by the control circuit (column 3, lines 49-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use a data transmission/reception is carried out through the PCM highway of LaRocca in the invention.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claim 16**, Matern and LaRocca as applied to **claim 6** above differ from **claim 16** in that it fails to disclose the vocoder is coupled to the private switching network over a PCM highway.

However, LaRocca teaches the vocoder is coupled to the private switching network over a PCM highway and a system interface bus, and wherein the PCM voice signals are from an extension subscriber and are received over the PCM highway from the private switching system and are arranged for a recording in order to provide the voice mail service, the vocoder demodulating the compressed and modulated PCM voice signals to transmit the PCM voice signals to a caller side having applied an incoming call (column 3, lines 49-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder is coupled to the private switching network over a PCM highway of LaRocca in the invention.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

8. **Claims 8 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of LaRocca and in further view Hersh.

Regarding **claims 8 and 10**, Matern and LaRocca as applied to **claims 6 and 7** above differ from **claims 8 and 10** in that it fails to disclose the first and the second dual port RAMs respectively comprise banks of memory.

However, Hersh discloses the first and the second dual port RAMs respectively comprise banks of memory, each of which store voice data to provide the voice mail service and a registration for the voice mail service (column 3, lines 37-66).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the first and the second dual port RAMs respectively comprise banks of memory of Hersh in the invention of Matern.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaufman is cited for an access and downloading a prerecorded greeting (FIG. 1).


Hansen, II et al. is cited for a telephone call/voice processing system (FIG. 1).

Hammond is cited for a calling center employing unified control system (FIG. 1).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Gauthier whose telephone number is (703) 305-0981. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.


g.g.
September 9, 2002

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

